

## Yahtzee dice loaded!

With reference to Tumbling Dice by Ron Roberts in the November issue of APC I became suspicious of its "fairness": when Yahtzees with ones or sixes seemed almost impossible. Testing the random number expression used

$R = \text{INT}(\text{RND}(1) * 5 + 1.3)$

I found the probability of getting a one or a six half the probability of getting either 2, 3, 4 or 5. The following program verifies this claim:

```
10 DIM N(6)
20 FOR I=1 TO 6 :
   N(I)=0 : NEXT I
30 PRINT
40 FOR I=1 TO 1000
50 R=INT (5*RND(1)
   +1.5)
60 N(R)=N(R) + 1
70 NEXT I
80 FOR T=1 TO 6
90 PRINT T "—" N(T)
100 NEXT
```

May I suggest the more correct formula

$R = \text{INT}(6 * \text{RND}(1) + 1)$

for a fair game.

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APC, Apr 85 6(4):19.